

Section D

Handouts and Activities



"Start Today for a Healthy Tomorrow"
Eat Right America®



Buyer Beware: MultiVitamin/Mineral Tricks You Should Know

- ◆ Make sure supplement labels list %DV, or Daily Values. Daily Values tell you how much of a day's worth of each vitamin or mineral you're getting. If labels do not disclose DVs, you do not know how much you are getting. There are no DVs for herbs, carotenoids, flavonoids, isoflavones, and other phytochemicals.
- ◆ There is no need to buy supplements that are pumped up with ingredients like ginseng, cayenne, alfalfa, coenzyme Q10, and bee pollen. There is little evidence that these substances are beneficial and more than likely are a waste of money.
- ◆ Some supplements add ingredients in such miniscule amounts that they are worthless. For example, a manufacturer may add 10 milligrams (mg) each of dehydrated broccoli, spinach, bell pepper, and parsley to its multivitamin. If you rehydrate the vegetables, it's no more than a thimbleful of all four vegetables combined. Some supplements contain 50 mg of oat bran powder, but to significantly lower your cholesterol, you need more than 10,000 mg per day.
- ◆ The Food and Drug Administration (FDA) allows manufacturers to label a supplement as "high potency" if at least two-thirds of its nutrients have at least 100 percent of the DV. This is very misleading because, to most people, "high potency" means significantly more than the DV. For some supplements, "high potency" may mean pumped up B vitamins and C, but less than the DV in other vitamins or minerals.
- ◆ Many companies sell "special formulas" for men, women, and seniors, but these claims are not regulated. Therefore, manufacturers can decide which nutrients are important to each group. Supplement makers are not always the experts in deciding which nutrients to add to their "special formulas". For instance, some women's formulas have only half the DV for folic acid, which can help prevent birth defects and may cut the risk of heart disease, while some senior formulas have only a fraction of the vitamin B-12 amount that experts recommend for people over 50.
- ◆ Do not let flashy or extraordinary claims lure you into buying a supplement. Supplement claims are loosely regulated and often misleading. For example, a supplement may contain amino acids that, according to the label are "the building blocks of growth". Amino acids are the building blocks of muscles, skin, and other body parts made of protein, but the amount of amino acids may be trivial when compared to the 50-gram DV for protein.

Source: Nutrition Action Healthletter, April 2000



Your Personal Guide to Multi-Vitamin/Mineral Supplements

The Recommended Dietary Allowances (RDA) are being replaced with Dietary Reference Intakes (DRI). Some labels list RDAs until all nutrients have DRIs. Listed below are definitions for Dietary Reference Intakes.

Adequate Intake – the dietary intake level adequate to maintain health that is determined when there is not enough scientific support to establish an RDA.

Estimated Average Requirement – the dietary intake level estimated to keep 50 percent of a specific group (women, for example) healthy.

Recommended Dietary Allowance – the estimated dietary intake level sufficient to meet requirements of 98 percent of healthy individuals.

Tolerable Upper Intake Level – the maximum level of daily nutrient intake. Taking more than the tolerable upper intake may result in adverse health effects.

Daily Value (DV) - nutrient standards established by the government and based on current nutrition recommendations. On the label, DVs are listed for a 2000-calorie diet.

% Daily Value (%DV) - the amount of a nutrient found in one serving of a food. For example, a food or supplement containing 20% of the DV for calcium provides 200 mg of calcium per serving since the DV for calcium is 1,000 mg. %DV tells you how a food or supplement meets your daily requirements for specific nutrients. It means the same as %USRDA (U.S. Recommend Daily Allowance).

mg = milligrams

mcg = micrograms

gm = grams

IU = International Units

Here is what you need to know:

- The DV for **vitamin A** palmitate or acetate is 5,000 IU and there's no need to take more than this amount. To avoid increasing the risk of birth defects, do not take more than 10,000 IU a day.
- There is no DV for **beta-carotene** and while beta-carotene is not toxic and does not cause birth defects, high doses of 33,000 to 50,000 IU/day may raise the risk of cancer in smokers.
- **Vitamin D** helps you absorb calcium. The National Academy of Sciences recommends 200 IU/day for adults under 51 years of age, 400 IU for adults aged 51 to 70, and 600 IU for anyone over 70. Look for a multi that has at least the DV, which is 400 IU/day.

- **Folic acid** can reduce the risk of birth defects for women who could become pregnant and may reduce the risk of heart disease, stroke, or cancer for everyone. Buy a multi that has at least 400 mcg, which is the DV.
- **Iron** deficiency is more common in children and premenopausal women, but too much iron can cause hemochromatosis (excess iron) in some people. The DV for iron is 18 mg/day, which is acceptable for most children and premenopausal women. No one should take more than the DV for iron, unless prescribed by a health care professional.
- The DV for **vitamin C** is 75 mg/day for women and 90 mg/day for men. Smokers need an additional 35 mg since smoking damages cells and depletes vitamin C stores. The Upper Toxic Limit is 2,000 mg/day. Taking more than 1,000 mg at one time may cause diarrhea. Consuming the National Cancer Institute's recommendation of 5 to 9 servings of fruits and vegetables a day should provide you with the DV for vitamin C.
- The DV for **vitamin E** is 15 mg/day from food, which is equivalent to 22 IU of natural-source vitamin E (d-alpha-tocopherol) or 33 IU of synthetic E (dl-alpha-tocopherol). Alpha-tocopherol is the only type of vitamin E that human blood can maintain and transfer to cells when needed. The Upper Toxic Limit is 1,500 IU/day of natural E or 1,100 IU/day of synthetic E. Taking more than this amount increases one's risk of hemorrhage because vitamin E acts as an anticoagulant, or blood thinner. This is especially important if someone is taking a prescription blood thinner and/or over-the-counter omega-3 fatty acids, fish oil, a daily aspirin, or ginkgo biloba, all of which act as blood thinners.
- **Vitamin K** may help strengthen bones. Women should get 65 mcg/day and men should get 80 mcg/day.
- **Thiamin (B-1), riboflavin (B-2), Niacin, and Vitamin B-6.** There's no reason to get more than the DV for B vitamins. Taking more than the DV of some B vitamins is usually harmless, but taking super-high doses of niacin (> 500 mg/day) can cause liver damage and B-6 in doses greater than 200 mg a day can cause (reversible) neurological problems.
- The DV for **vitamin B-12** is 6 mcg/day. The National Academy of Sciences estimates that as many as 30% of adults over age 50 do not produce enough stomach acid to adequately absorb B-12. Therefore, people over 50 should take 15 to 25 mcg/day. Injections of B-12 for "extra energy" are a waste of money unless diagnosed with a B-12 deficiency.
- **Calcium** helps build strong bones and reduces the risk of osteoporosis. Consume 1,000 mg/day if you are 19 to 50 years old (this is the DV), 1,200 mg/day if 51 to 70 years, and 1,500 mg if over 70. Three to four servings of low-fat milk, yogurt, or cheese daily provides about 1,000 mg of calcium. Estimate the average amount of calcium you consume through food and take a supplement to meet your daily goal.
- The DV for **magnesium** is 400 mg/day. Since the best sources of magnesium are whole grains and beans, some Americans may not consume enough of this nutrient.

- The DV for **selenium** is 70 mcg/day. Current research is investigating selenium's role in cancer prevention, but until more is known about its role in prevention, there is no reason to take more than 200 mcg/day. Doses of more than 400 mcg/day can be toxic and cause side effects, such as nausea, vomiting, hair loss, and tooth loss.
- **Chromium's** DV is 120 mcg. There's no need to get more than 200 mcg/day.
- Excess **phosphorous** can impair calcium absorption and most people get more than enough phosphorus through food. There is no need to take more than 100 mg/day.
- The DV for **zinc** is 15 mg/day. Taking too much zinc can impair the absorption of copper; so take a multi that contains both zinc and copper. Taking more than 50 mg/day may weaken your immune system, so do not take high daily doses of zinc to prevent a cold.
- The DV for **copper** is 2 mg/day. Most people do not need more than this amount.
- **Iodine, Manganese, Molybdenum, Chloride, and Boron.** There's no clear evidence that people need more than the amount consumed through food. There are no DVs for these nutrients.
- **Potassium** helps lower blood pressure, however, the amount found in a multivitamin is miniscule when compared to the DV of 3,500 mg/day. You are better off eating 5 to 9 servings of fruits and vegetables to meet your potassium requirement.

Source: Nutrition Action Healthletter, April 2000



St John's Wort FACT Sheet

Scientific Name: Hypericum Perforatum

Common Name: St John's Wort

Active Ingredients: Hypericin & Xanthones

Best-Selling Brands (with the most active ingredient): Vitafit, Source Naturals, Vitamins.com.

Historical Perspective: Named after St John the Baptist (abundant on his birthday, June 24). Used in ancient times as a treatment for menstrual disorders and in the Middle Ages for anxiety and depression.

Common Uses: Used in the tea form as a nerve tonic, a diuretic, and for treatment of conditions such as insomnia and even gastritis. In the pill form, it is used for mild to moderate depression. Used in the oil form (red oil) to relieve inflammation, promote healing, and as a hemorrhoid treatment.

Investigational Uses (for specific medical conditions/diagnoses): AIDS: Investigation of the effect of hypericin in inactivating lipid containing retroviruses. -Ineffective

CANCER: Investigation of the use of hypericin to induce cancer cell death.-Ineffective

Common or Recommended Dosages: 1-2 cups of the tea daily. 1-2 pills daily.

Average Cost per Day: Depends on amount of active ingredient. Prices I found ranged from \$13.00 (100caps-1-2 times/day) to \$17.75 (80 caps-1-2 pills/day) to \$14.95 (30 caps-2 pills/day).

Source Naturals \$12.78 (120caps-3 times/day), Vitamins.com \$8.37 (90caps-1-3 times/day)

Potential Side Effects: Photosensitivity (rare, with large doses), possible high blood pressure, gastrointestinal discomfort, fatigue, dizziness, itching, nausea, anxiety, dry mouth, and a skin rash.

Food Drug Interactions: Certain foods may react unfavorably with hypericin: Amino acids tryptophan and tyrosine, beer, coffee, wine, chocolate, fava beans, and salami.

Contraindications to Use: Should not be used if pregnant, or on antidepressants, diet pills, narcotics, or amphetamines.

Preparations of St John's Wort are inducers of various drug-metabolizing enzymes, resulting in a lessened therapeutic effect. It should not be taken with indinavir, warfarin, cyclosporin, oral contraceptives, digoxin, and theophylline. (Committee on Safety of Medicines)

Research Data on Safety and Efficacy (both short-term and long-term use): A meta-analysis of 23 randomized trials, published in the British Medical Journal, found that hypericum, the active ingredient, was superior to the placebo and about as effective as standard antidepressants.

Bottom-Line: St John's Wort may be an effective treatment for mild to moderate depression but caution if you are on other medications and discontinue if side effects occur.

References:

1. Tyler V. The Honest Herbal: A Sensible Guide to the use of Herbs and Related Remedies. Binghamton, NY. The Haworth Press, Inc. 1993. P. 275-276.
2. St. John's Wort Side Effects and Warnings. <http://www.personalhealthzone.com/stjohnswort.html> accessed February, 2000.
3. Tyler V. Herbs of Choice. The therapeutic Use of Phytomedicinals. Binghamton, NY. The Haworth Press, Inc. 1994. P. 122
4. St John's Wort. <http://www.quackwatch.com/01QuackeryrelatedTopics/DSH/stjohnhtml>
5. Commonly Used Medicinal Herbs. <http://www.ama-assn.org/sci-pubs/journals/most/recent/issues/fami/fsa8005.htm>

6. Important Interactions Between St John's Wort (*Hypericum Perforatum*) preparation
Message Form Professor A Breckenridge, Chairman, Committee On Safety Of
2LT Jennifer Sherwood, U.S. Military Dietetic Internship, WRAMC, 23 May 00



Kava FACT Sheet

Scientific Name: *Piper methysticum*

Common Name: Kava

Best-Selling Brands: Sundown Herbals, Nature's Resource, Target Brand (Active Ingredient: Kava lactones)

Historical Perspective: A non-alcoholic drink made from the root of kava played an important role in a variety of ceremonies in the Pacific Islands, including welcoming visiting royalty, at meetings of village elders, or as part of social gatherings. Pacific Islanders valued Kava both for its mellowing effects and to encourage socializing. It was also noted for initiating a state of contentment, a greater sense of well-being, treatment of asthma, and enhanced mental acuity, memory, and sensory perception. Kava has also been used traditionally to treat pain.

Common Uses: Relief of nervous anxiety, stress, restlessness, and insomnia.

Investigational Uses: Possible alternative to synthetic anxiolytics, tricyclic antidepressants and benzodiazepines.

Forms Used: Capsule, pill, tincture, or tea.

Common and/or Recommended Dosage: 140-210 mg kava lactones per day

Average Cost Per Day at Common/Recommended Dosage: \$0.44/day

Potential Side Effects: Scaly yellowing of the skin; yellowing of nails and hair; eye irritation; tiredness and tendency to sleep; impairment of motor reflexes, equilibrium, judgment; rash; GI problems; pupil dilation; tiredness in the morning.

Food/Drug Interactions: Alcohol

Contraindication to Use: Not recommended for those with depression, taking barbiturates, taking psychopharmacological substances, taking longer than three months, or during pregnancy and lactation. Not recommended for children.

Research Data on Safety and Efficacy: 1) Tests on animals show that extracts of the drug-but no single identified compound-cause muscle relaxation to the point that animals fall out of revolving cages. 2) Medical tests suggest it may be helpful in treating psychosomatic symptoms in menopause. 3) Clinical studies have shown effective results on subjects with moderate to severe anxiety, without addictive side-effects of valium and other prescription anti-anxiety drugs. 4) Kava abuse by those who take it daily to the point of intoxication may lose weight, develop a distinctive scaly rash, and have lower counts of albumin, protein, bilirubin, platelets, and lymphocytes in the blood. 5) If planning to use for more than 3 months, consult a physician. 6) On February 22, 1998, the FDA announced 16 dietary supplements as risky, Kava was listed with a warning that it "can potentiate the effects of alcohol and certain psychological drugs."

Bottom-Line: Recommend with reservations. Anxiety can be a serious disorder that people should not try to treat themselves. For moderate to severe anxiety, consult a physician to discuss treatment options. For mild relaxation, may be used within the recommended dosage for up to three months with caution when operating machinery or motor vehicles. After three months, consult a physician.

References:

Graedon, J and Graedon, T. The people's pharmacy guide to home and herbal remedies. Graedon Enterprises, Inc; 1999.

Miller, L and Wallace, M. Herbal medicinals: A clinicians guide. Hawthorne Press, New York; 1998.

www.healthcentral.com

www.mothenature.com

www.rxlist.com

2LT Liana Zacharias, U.S. Military Dietetic Internship, WRAMC, 23 May 00



Green Tea FACT Sheet

Scientific Name: *Camilia sinensis*

Common Name: *Green Tea*

Best-Selling Brands: There are many, many brands sold in supermarkets as well as ethnic and health food stores.

Historical Perspective: Green tea leaf and its extracts has been used in China for thousands of years. It is used to treat a variety of maladies, to include dizziness, headache and indigestion.

Common Uses: Green tea is claimed to help in the prevention of atherosclerosis (hardening of the arteries), cancer, cavities and high cholesterol. It is also promoted as an antibacterial agent, astringent, diuretic, radioprotective agent and a stimulant.

Investigational Uses: Studies have been done with green tea for cancer prevention, cholesterol lowering, as an antibacterial agent, for its antiplatelet effects (blood thinning) and for decreasing cavities (because of its fluoride and tannin content).

Form(s) Used: Green tea is usually "taken" in the tea form; however, there are capsules of green tea as well.

Common and/or Recommended Dosage: Green tea is usually consumed by drinking, although capsules are available. Six to ten cups a day is the recommended dose for therapeutic effects.

Average Cost per Day at Common/Recommended Dosage: \$4.10-\$6.31 a day (depending on the brand you choose, Green tea is as inexpensive as .83-\$1.39 for six to ten cups a day.

Potential Side Effects: Allergic reactions for those with green tea asthma. Green tea does have caffeine, so large amounts may cause restlessness, nausea, vomiting, diarrhea or constipation, heart palpitations and headache. For those with a sensitive stomach, green tea may cause stomach irritation and poor appetite.

Food Drug Interactions: Green tea is a good source of vitamin K, so anyone taking Coumadin or Warfarin (blood thinners) should consult a health care provider; vitamin K antagonizes the effect of these medications. Green tea also interacts with Doxorubicin and alkaline medications (consult your health care provider). If green tea is consumed with milk, the antioxidant effects may be diminished.

Contraindication to Use: Green tea should be used cautiously by those who have a weak heart, kidney disease, an overactive thyroid, a susceptibility to spasms or prone to anxiety or panic attacks. In addition, because caffeine should be restricted during pregnancy and breastfeeding, consumption of green tea during these times should be moderate.

Research Data on Safety and Efficacy: Green tea has antioxidant properties, which is one of the ways that green tea may be protective of heart disease. Other studies show that consuming green tea may also be helpful for reducing the risk for some forms of cancer. Research continues in both of these areas. Studies testing green tea's antibacterial properties are also promising.

Bottom-Line: Green tea is very safe.

References:

1. *Professional's Handbook of Complementary and Alternative Medicines.* C.W. Fetrow, PharmD, Juan R. Avila, PharmD, Springhouse, 2001.

2. *The Health Professional's Guide to Popular Dietary Supplements*. Allison Sarubin, MS, RD. The American Dietetic Association, 2000.

3. <http://my.webmd.com>



Ginkgo Biloba FACT Sheet

Scientific Name: *Ginkgoaceae*

Common Name: *Ginkgo Biloba, Ginkgo, Ginkoba*

Brands Tested and Approved for Quality by Consumerlab.com:

Gingkolidin, Enzymatic Therapy Ginkgo Biloba, NOW Ginkgo

Historical Perspective: The ginkgo tree is the oldest species of tree dating back 200 million years. The leaves of the ginkgo tree have been used for centuries in China for their medicinal qualities. In Germany and France, ginkgo is often prescribed for various cognitive disorders; however, these

countries use standardized extracts of these herbs, meaning the dose being provided is pretty consistent. In 1997, ginkgo was the top selling herb in the United States.

Common Uses: Ginkgo may be used to treat vascular diseases because of its ability to increase blood flow; this is how it may improve memory and concentration. Ginkgo is also sometimes used to treat irregular heartbeat, asthma, hearing loss and premenstrual syndrome.

Investigational Uses: It has been investigated for use in treatment of glaucoma and dementia. Some studies indicate that Ginkgo is effective in treating dementia associated with vascular disease. No such conclusions have been made regarding glaucoma.

Form(s) Used: Common forms of ginkgo preparations are capsules, nutrition bars, sublingual sprays (below the tongue) and tablets.

** Ginkgo seeds and fruit pulp are considered toxic; do not use these forms.

Common and/or Recommended Dosage:

- For dementia 120-240mg by mouth a day, divided into two or three doses (example, 40mg three times a day for a total dose of 120mg).
- For peripheral vascular disease and tinnitus (associated with hearing loss) 120-160mg a day, divided in two or three doses.

Average Cost per Day at Common/Recommended Dosage: Average daily cost is 31-62 cents a day, \$2.15-4.34 per week and \$8.61-17.36 per month.

Potential Side Effects:

- Allergic reactions are uncommon, but have occurred (i.e. difficulty breathing; closing of the throat; swelling of the lips, tongue or face; hives)
- Seizures (with excessive use of ginkgo seeds)
- Headache
- Irregular heart beat
- Nausea, diarrhea, vomiting
- Dizziness
- Bleeding

Food Drug Interactions: Because it has similar properties, Ginkgo may interact with medications that cause blood thinning such as Coumadin or Warfarin. By the same token, anyone who is on aspirin therapy or who takes Vitamin E in therapeutic doses may also be at risk for an increased bleeding time.

Ginkgo may also interact with Lovenox, Orgaran, Fragmin, Normiflo and nonsteroidal anti-inflammatory medications.

Contraindication to Use: Ginkgo should be stopped a few weeks prior to any surgical procedure; the surgery team will advise for specific guidelines. In addition, if you are taking any of the medications mentioned above, consult with your health care provider before taking ginkgo.

Research Data on Safety and Efficacy: Some studies indicate that ginkgo is helpful for dementia and peripheral vascular disease; however, more studies need to be done. No other claims for its use have been validated. Ginkgo is generally safe; however, anyone taking any of the medications mentioned previously or who has any kind of bleeding disorder should be cautious. Consult with your health care provider.

Bottom-Line: The brands listed by Consumerlab.com are some of the brands that contain adequate amounts of the active ingredient. Ginkgo is generally safe; however, anyone taking prescription or over the counter medications (especially those listed above) should consult with a health care provider or pharmacist before taking ginkgo.

References:

1. Consumerlab.com
2. <http://my.webmd.com>
3. *The Health Professional's Guide to Popular Dietary Supplements*, Allison Sarubin, MS, RD, The American Dietetic Association, 2000
4. *Professional's Handbook of Complementary and Alternative Medicines*, C.W. Fetrow, PharmD, Juan R. Avila, PharmD, Springhouse, 2001
5. www.gnc.com



Food & Drug Administration's Advice on Dietary Supplements

How to spot a fraudulent product:

- Claims that the product is a secret cure and use of such terms as "breakthrough," "magical," "miracle cure," and "new discovery." If the product were a cure for a serious disease, it would be widely reported in the media and used by health-care professionals.

- "Pseudomedical" jargon, such as "detoxify," "purify" and "energize" to describe a product's effects. These claims are vague and hard to measure. So, they make it easier for success to be claimed even though nothing has actually been accomplished.
- Claims that the product can cure a wide range of unrelated diseases. No product can do that.
- Claims that a product is backed by scientific studies, but with no list of references or references that are inadequate. For instance, if a list of references is provided, the citations cannot be traced, or if they are traceable, the studies are out-of-date, irrelevant, or poorly designed.
- Claims that the supplement has only benefits--and no side effects. A product potent enough to help people will be potent enough to cause side effects.
- Accusations that the medical profession, drug companies and the government are suppressing information about a particular treatment. It would be illogical for large numbers of people to withhold information about potential medical therapies when they or their families and friends might one day benefit from them.

To ensure that you get a quality product, you should:

- Look for ingredients in products with the U.S.P. notation, which indicates the manufacturer followed standards established by the U.S. Pharmacopoeia.
- Realize that the label term "natural" doesn't guarantee that a product is safe. "Think of poisonous mushrooms," says Elizabeth Yetley, Ph.D., director of FDA's Office of Special Nutritionals. "They're natural."
- Consider the name of the manufacturer or distributor. Supplements made by a nationally known food and drug manufacturer, for example, have likely been made under tight controls because these companies already have in place manufacturing standards for their other products.
- Write to the supplement manufacturer for more information. Ask the company about the conditions under which its products were made.

Source: http://www.fda.gov/fdac/features/1998/598_guid.html



Echinacea Purpurea FACT SHEET



Scientific Name: Echinacea Purpurea

Common Name: Echinacea, Purple Coneflower

Best Selling Brands: Centrum Herbals, Sundown, Fields of Nature

Historical Perspective: Echinacea Purpurea is a perennial flower that is native to North America, especially the northern and central midwest. It is a purple coneflower that gets its name from the arrangement of florets of its daisy like flowers around a center cone. Echinacea flowers can branch stems from between 2-5 feet long. It flowers mainly in the summer and can survive through times of drought and poor soil. There are actually two additional types of echinacea- echinacea pallida and echinacea angustifolia. These two types of the herb were used in the early preparations of echinacea. Echinacea purpurea is the flower of choice in today's market, as it is the only one currently being cultivated. Echinacea has been long been used by Native Americans, especially the Plains Indians, for medicinal purposes. Roots were chewed or put in tea to help with ailments such as snakebites, spider bites, cancers, toothaches, burns, hard to heal wounds, colds and flu.

Common Uses: Echinacea is said to stimulate the body's immune system against infectious and inflammatory conditions. Many health magazines promote echinacea when a person feels that they have a cold or the flu coming on. The herb is said to reduce the severity of the impending infection. Today, it is most commonly used for acute and chronic respiratory tract infections, treatment of leukopenia following radio therapy and support of anti-infectious chemotherapy. It is said that echinacea strengthens the immune system by stimulating phagocytosis, the process by which some cells of the body eat and get rid of small living things and cell wastes. It is also said to aid in T-cell formation.

Investigational Uses: The only investigational use that seems to appear in the literature is the use of echinacea in the treatment of AIDS. Some researchers claim that since it shows promise in strengthening the immune system, it shows promise as another "drug" used in the battle against AIDS. This appears to be controversial and has not yet been approved.

Forms Used: Oral consumption is the primary use. Echinacea can be found in pill form or as an oral tincture.

Common and/or Recommended Dosage: The dosage of the herb is dependent on the preparation utilized. According to Varo Tyler, the producer of a typical American hydroalcoholic preparation recommends fifteen to thirty drops two to five times daily. The German Commission E recommends a daily dose of root fluid extract to 900 mg. The capsule preparations found in the stores vary greatly by the amount of echinacea in each pill. Bottles found in common health stores have a person taking anywhere from 3 –9 pills daily.

Average Cost per Day: Taking the pills at the recommended dosage will cost consumers on average of \$0.40 per day. A bottle is generally a one month supply.

Potential Side Effects: The PDR for Herbal Medicine did not indicate any health risks or side effects when taking the prescribed dosages. It did state that when given parenterally, dose-dependent fever, nausea and vomiting can occur.

Contraindication to Use: Echinacea is not recommended for patients with multiple sclerosis, leukoses, collagenoses, tuberculosis or AIDS (which is interesting, as it is also listed under the investigational uses section of this fact sheet). It is contraindicated because of the conceivable activation of autoimmune aggression and other overactive immune responses.

Research Data on Safety and Efficacy: According to Varo Tyler, Echinacea is the most studied of all the nonspecific immunosuppressants. Researchers in Germany reviewed over 25 controlled clinical trials, all conducted prior to 1994. The studies found echinacea to be effective, however, it was emphasized that efficacy depends of the type and strength of preparation used. The jury is still out on extended long term use.

Bottom Line: Echinacea appears to be safe, when taken according to the recommended dosage. It is important to note that it should not be taken as a preventative measure on a daily basis and there are no studies documenting the long term effects of the herb. As with any herb, take with caution.

References:

PDR for Herbals

The Honest Herbal by Varo Tyler

Herbs of Choice by Varo Tyler

Herbal Medicinals by Lucinda Miller and Wallace Murphy

www.vitaminchannel.com

2LT Tanya Crail, U.S. Military Dietetic Internship, WRAMC, 23 May 00



Creatine Fact Sheet

What is creatine? It's a natural substance found in fish and raw meat. It is also made by the human body and stored in muscle. Creatine is used during high intensity exercise. Most people consume about 1 gram of creatine per day through dietary sources.

What can creatine do for you? Studies have shown that athletes **may** improve their performance by supplementing their diet with creatine. Some studies have suggested that creatine seems to improve performance during activities that require short, intense bursts of energy such as sprinting or weight training.

Advantages

- * Potential for increased energy during activities requiring short bursts of effort
- * Increased muscle mass if used with strength training program
- * Improved cell hydration
- * Muscle fatigue occurs later

Disadvantages

- * Requires athletes to drink larger quantities of water
- * Potential for danger is still unknown due to its "newness"
- * Expensive; some doses cost up to \$7.50 per day
- * Does not work without a serious training program
- * Side effects from long term use are not known

If you are taking creatine, how much should you take? Creatine is purchased in powder form and taken with water or juice.

For rapid creatine loading

5 teaspoons (or a total of 25 grams) per day for 6 days (1 teaspoon 5 times/day)

Cost: about \$7.50 per day

For no-load creatine supplementation

2/3 teaspoon (3 grams) for 30 days

Cost: about \$1.10 per day

For maintenance (after 6 days of loading or 30 days of no-load supplementation)

1/2 teaspoon (2 grams) per day

Cost: about 75 cents per day

Will more creatine make you perform better? No. The body can only store a certain amount of creatine. Some studies suggest that taking more than 40 grams of creatine a day may cause liver or kidney damage in some people.

The Bottom Line: Creatine will not build muscles or improve performance on its own. To be effective, a training program must accompany creatine supplementation. Even then, the improvements in performance may be small. Twenty percent of people taking creatine do not respond to creatine supplementation and performance does not change.

Warning! Athletes of any age taking creatine should do so under the supervision of a health care provider. The detrimental effects of creatine are still unknown.



FIBER OUTLINE AND GAME

Fiber Outline

- I FIBER
 - 25-35 grams/day

Soluble versus Insoluble
Food Sources

II FIBER GAME
See attached

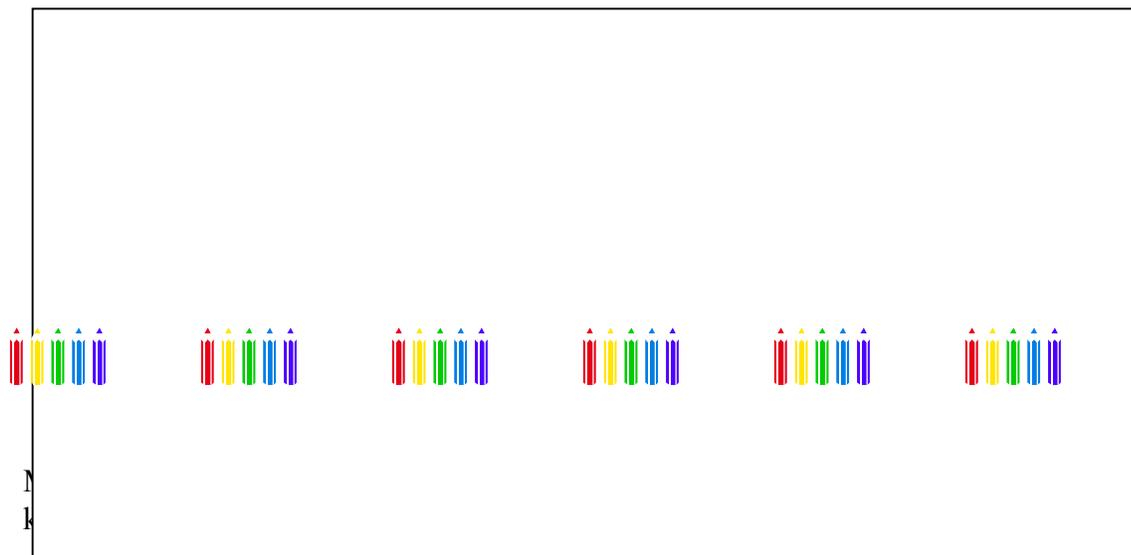
III FIBER BENEFITS
Lower serum lipids
Lower serum glucose
Provide bulk
Decrease risk of some cancers
Decrease risk of diverticular disease

IV Other considerations with fiber
Start gradually
Flatulence
Extra fluid

FIBER GAME

OBJECTIVES: To state the difference in the amount of fiber per day, differentiate between soluble and insoluble fiber, understand the role fiber plays in health, and to identify a way to increase fiber in their own diet (if necessary) along with how to increase fiber safely.

METHOD: Participants write down everything they ate the day before. Next, they cross out all animal foods and beverages as these do not contain fiber. Using the overhead as a reference, they score the foods in the diet. The RD is available to help them as needed.



1. Which of the following are not considered a fruit?
 - a. Kumquat
 - b. Papaya

- c. Star fruit
 - d. CousCous
2. Which of the following has the least fat?
- a. One tablespoon butter
 - b. One tablespoon margarine
 - c. One tablespoon peanut butter
 - d. One tablespoon apple butter
3. The average American child age six to 11 watches how much television in a week?
- a. Eight hours
 - b. 12 hours
 - c. 23 hours
 - d. 28 hours
4. Untreated high blood pressure can lead to all of the following, except:
- a. Diabetes
 - b. Heart attack
 - c. Atherosclerosis “hardening of the arteries”
 - d. Kidney disease
5. All of the following are risk factors for osteoporosis, except:
- a. Underweight
 - b. Chronic low calcium intake
 - c. Taking part in regular physical activity
 - d. Family history
6. Which food item contains the most potassium?
- a. 1 cup yogurt
 - b. Medium banana
 - c. 8 oz Gatorade
 - d. Large potato
7. Which oil has the largest amount of saturated fat?
- a. Coconut oil
 - b. Palm oil
 - c. Canola oil
 - d. Peanut oil
8. Which vitamin aids in calcium absorption?

- a. Iron
 - b. Vitamin D
 - c. Vitamin C
 - d. Folic acid
9. How many servings should you be consuming daily from the vegetable group based on the Food Guide Pyramid?
- a. 6-11
 - b. 2-3
 - c. 3-5
 - d. 2-4
10. Which food item provides the most fiber?
- a. 1 cup orange juice
 - b. 1 ½ cup lettuce, romaine
 - c. 1 cup pinto beans
 - d. 1 slice whole grain bread

Answers: 1. D 2. D 3. C 4. A 5. C 6. D 7. A 8. B 9. C 10. C



NUTRITION QUIZ 2

March is National Nutrition Month and a great time to assess your nutrition and fitness knowledge. Are you nutrition and fitness savvy? Take the weekly quiz and find out!

1. Beta-carotene is important in cancer prevention. Which food item contains beta-carotene?
- a. Banana
 - b. Sweet potato
 - c. Whole wheat bread
 - d. Skim milk

2. To get about the same amount of calcium as in 1 cup of milk, you need to consume:
 - a. 1 cup calcium-fortified orange juice
 - b. 6 oranges
 - c. 1 cup broccoli
 - d. $\frac{1}{2}$ oz cheese
3. Which is the only real concern about sugar intake?
 - a. It can cause diabetes
 - b. It has too many calories
 - c. It makes you hyperactive
 - d. It causes dental cavities
4. Approximately one-half the calories in whole milk come from:
 - a. Water
 - b. Fat
 - c. Protein
 - d. Carbohydrate
5. Which of the following spreads adds the least amount of fat to bread?
 - a. Garlic butter
 - b. Herbed margarine
 - c. Olive oil for dipping
 - d. All of the above has about the same amount
6. Hydrogenation is a process that makes unsaturated fats:
 - a. More solid
 - b. More liquid
 - c. More saturated
 - d. Both a and c
7. What is the minimum number of servings of fruits and vegetables you should consume per day based on the Food Guide Pyramid?
 - a. 2
 - b. 3
 - c. 5
 - d. 8
8. Lycopene has been shown to reduce the risk of prostate cancer and heart attack. What food item is a good source of lycopene?
 - a. Tomato

- b. Skim milk
 - c. Carrots
 - d. Grapes
9. Antioxidants are protective substances naturally found in concentrated amounts in fruits, vegetables and grains. They include all of the following except:
- a. Vitamin A
 - b. Vitamin C
 - c. Vitamin D
 - d. Vitamin E
10. Approximately how many teaspoons of sugar are in 1-12oz can of cola?
- a. 12
 - b. 9
 - c. 6
 - d. 4

Answers: 1. B 2. A 3. D 4. B 5. D 6. D 7. C 8. A 9. C 10. B



NUTRITION QUIZ 3

March is National Nutrition Month and a great time to assess your nutrition and fitness knowledge. Are you nutrition and fitness savvy? Take the weekly quiz and find out!

1. Which of the following is not considered a legume?
- a. Pinto beans
 - b. Lima beans
 - c. Split peas
 - d. Okra
2. Which B vitamin has been shown to reduce the risk of neural tube birth defects, reduce risk of heart disease and stroke, and inhibit cancer?

- a. Riboflavin
 - b. Folic acid
 - c. Thiamin
 - d. Niacin
3. The percent daily values on a label for carbohydrate, protein and fat are based on what calorie level?
- a. 1500
 - b. 1600
 - c. 2000
 - d. 2800
4. Antioxidants help protect the body from the potentially harmful effects of free radicals which can damage cells and contribute to cancer. Which food item is not a source of natural antioxidants?
- a. Broccoli
 - b. Tea
 - c. Grapes
 - d. Chicken
5. Fiber has many health benefits. How many grams of fiber per day should adults consume?
- a. 10-20
 - b. 15-25
 - c. 20-35
 - d. 35-50
6. We should consume 50-60% of our daily intake from carbohydrates. Which food item is not a source of carbohydrates?
- a. Milk
 - b. Oatmeal
 - c. Banana
 - d. Boiled Egg

Answers: 1. D 2. B 3. C 4. D 5. C 6. D